Exchange Building • 821 Second Ave. • Seattle, WA 98104-1598 • (206) 684-2100

January 24, 1992

James C. Brown ALASKAN COPPER WORKS Box 3546 SEATTLE, WA 98124

Dear James C. Brown:

The Industrial Waste Section of Metro has collected sample(s) of the waste water from your discharge for Total Toxic Organic (TTO) analysis. The purpose of this letter is to notify you of these analytical results with a determination of whether or not your discharge is in compliance with the TTO standard.

TOTAL TOXIC ORGANIC ANALYSIS FOR:

STATION: A4010

SITE DESCRIPTION: 6TH AVE SOUTH

Sampling Date

Total Toxic Organic (ppm)

Comment(s)

1/8/92

ο.

In compliance

NOTE: TTO is based on the sum of the concentrations of priority pollutants that exceed 10 ppb.

If you have any questions, please call your Metro contact person: Christie True 689-3009; Jim Sifford 689-3008; Larry Holyoke 689-3018; Patricia Magnuson 684-3019; Jacqueline Eden 689-3011; and Horace Lee at 684-3017.

Very truly yours,

Industrial Waste Investigator

Environmental Programs

GC/MS VOLATILES ORGANIC ANALYSIS REPORT

Sample No: 9205497

Batch No.: VM#62

Station: A4010

Sample ID: AK CU Date Sampled: 01-09-92
Inst. ID: 4500C Matrix: WASTEWATER
Dilution: 5.0 % Solids: 0.00 Project: B40120 Amount: 5.0 ML

CHLOROMETHANE	Priority Pollutants	Wet DL (ppb)	Wet Conc (ppb)
VINYLCHLORIDE		10.00	ND
CHLOROETHANE	VINYLCHLORIDE	10.00	ND
TRICHLOROFLUOROMETHANE 10.00 ND ACROLEIN 50.00 ND 1,1-DICHLOROETHYLENE 10.00 ND METHYLENE CHLORIDE 50.00 ND ACRYLONITRILE 50.00 ND ACRYLONITRILE 50.00 ND TRANS-1,2-DICHLOROETHYLENE 10.00 ND 1,1-DICHLOROETHANE 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND ENZENE 10.00 ND 1,2-DICHLOROETHANE 10.00 ND 1,2-DICHLOROETHYLENE 10.00 ND 1,2-TRICHLOROETHYLENE 10.00 ND 1,2-DICHLOROETHYLENE 10.00 ND 1,2-CHLOROETHYLENE 10.00 ND 1,1,2-TRICHLOROETHYLENE 10.00 ND 2-CHLOROETHYLVINYLETHER 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND CHLOROETHYLENE 10.00 ND CHLOROETHYLENE 10.00 ND ACHLORODIBROMOMETHANE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROENZENE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND CARBON DISULFIDE 50.00 ND CARBON DISULFIDE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 2-BUTANONE (MEK) 50.00 ND 2-BUTANONE (MEK) 50.00 ND TOTAL XYLENE 50.00 ND	BROMOMETHANE	j 10.00 j	ND
TRICHLOROFILIOROMETHANE 10.00 ND ACROLEIN 50.00 ND 1,1-DICHLOROETHYLENE 10.00 ND METHYLENE CHLORIDE 50.00 ND ACRYLONITRILE 50.00 ND TRANS-1,2-DICHLOROETHYLENE 10.00 ND 1,1-DICHLOROETHANE 10.00 ND 1,1-TRICHLOROETHANE 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND EBENZENE 10.00 ND 1,2-DICHLOROETHANE 10.00 ND 1,2-DICHLOROETHYLENE 10.00 ND 1,2-TRICHLOROETHYLENE 10.00 ND 1,1,2-TRICHLOROETHYLENE 10.00 ND 1,2-DICHLOROFOPANE 10.00 ND 1,1,2-TRICHLOROETHYLENE 10.00 ND 1,1,2-TRICHLOROETHYLENE 10.00 ND 1,1,2-TRICHLOROFOPANE 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND CCIS-1,3-DICHLOROPROPENE 10.00 ND TCLUENE 10.00 ND CIS-1,3-DICHLOROFTHANE 10.00 ND CIS-1,3-DICHLOROFTHANE 10.00 ND CHLOROETHYLENE 10.00 ND CHLOROETHYLENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND ACETONE 50.00 ND ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND CARBON DISULFIDE 50.00 ND CAR	CHLOROETHANE	j 10.00 j	ND
ACROLEIN		i 10.00 i	ND
METHYLENE CHLORIDE		50.00	ND
ACRYLONITRILE 50.00 ND TRANS-1,2-DICHLOROETHYLENE 10.00 ND 1,1-DICHLOROETHANE 10.00 ND CHLOROFORM 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND CARBON TETRACHLORIDE 10.00 ND BENZENE 10.00 ND 1,2-DICHLOROETHANE 10.00 ND 1,2-TRICHLOROETHYLENE 10.00 ND 1,2-DICHLOROPROPANE 10.00 ND 1,2-DICHLOROPROPANE 10.00 ND EROMODICHLOROMETHANE 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND TETRACHLOROETHYLENE 10.00 ND TETRACHLOROETHANE 10.00 ND CHLOROBENZENE 10.00 ND CHLOROBENZENE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND ETHYL BENZENE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND VINYL ACETATE 50.00 ND 2-BUTANNONE (MEK) 50.00 ND TOTAL XYLENE 10.00 ND TOTAL XYLENE 10.00 ND TOTAL XYLENE 10.00 ND	1,1-DICHLOROETHYLENE	10.00	ND
TRANS-1,2-DICHLOROETHYLENE 10.00 ND 1,1-DICHLOROETHANE 10.00 ND CHLOROFORM 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND CARBON TETRACHLORIDE 10.00 ND BENZENE 10.00 ND 1,2-DICHLOROETHANE 10.00 ND 1,2-DICHLOROETHYLENE 10.00 ND 1,2-DICHLOROETHYLENE 10.00 ND BROMODICHLOROMETHANE 10.00 ND 2-CHLOROETHYLVINYLETHER 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLOROETHYLENE 10.00 ND CHLOROBENZENE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE CARBON DISULFIDE 10.00 ND CARBON DISULFIDE 10.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 2-HEXANONE MIBK) 50.00 ND TOTAL XYLENE 10.00 ND TOTAL XYLENE 10.00 ND TOTAL XYLENE 10.00 ND	METHYLENE CHLORIDE	j 50.00 j	ND
1,1-DICHLOROETHANE	ACRYLONITRILE	j 50.00 j	ND
1,1-DICHLOROETHANE	TRANS-1,2-DICHLOROETHYLENE	j 10.00 j	ND
CHLOROFORM 10.00 ND 1,1,1-TRICHLOROETHANE 10.00 ND CARBON TETRACHLORIDE 10.00 ND BENZENE 10.00 ND 1,2-DICHLOROETHANE 10.00 ND 1,1,2-TRICHLOROETHYLENE 10.00 ND 1,2-DICHLOROPROPANE 10.00 ND BROMODICHLOROMETHANE 10.00 ND 2-CHLOROETHYLVINYLETHER 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHANE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND BROMOFORM 10.00 ND 11,1,2,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 <t< td=""><td></td><td>i 10.00</td><td>ND</td></t<>		i 10.00	ND
1,1,1-TRICHLOROETHANE		10.00	ND
CARBON TETRACHLORIDE		10.00	ND
BENZENE		10.00	ND
1,1,2—TRICHLOROETHYLENE 10.00 ND 1,2—DICHLOROPROPANE 10.00 ND BROMODICHLOROMETHANE 10.00 ND 2—CHLOROETHYLVINYLETHER 10.00 ND TRANS—1,3—DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS—1,3—DICHLOROPROPENE 10.00 ND 1,1,2—TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2,2—TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2—BUTANONE (MEK) 50.00 ND 4—METHYL—2—PENTANONE (MIBK) 50.00 ND TOTAL XYLENE 10.00 ND		10.00	ND
1,1,2-TRICHLOROETHYLENE 10.00 ND 1,2-DICHLOROPROPANE 10.00 ND BROMODICHLOROMETHANE 10.00 ND 2-CHLOROETHYLVINYLETHER 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND TOTAL XYLENE 10.00 ND	1.2-DICHLOROETHANE	10.00	ND
1,2-DICHLOROPROPANE 10.00 ND BROMODICHLOROMETHANE 10.00 ND 2-CHLOROETHYLVINYLETHER 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2,2-TETRACHLOROETHANE 10.00 ND ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 10TAL XYLENE 10.00 ND		10.00	ND
BROMODICHLOROMETHANE 10.00 ND 2-CHLOROETHYLVINYLETHER 10.00 ND TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLOROBIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND BROMOFORM 10.00 ND BROMOFORM 10.00 ND 1,1,2,2-TETRACHLOROETHANE 10.00 ND ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND		10.00	ND
TRANS-1,3-DICHLOROPROPENE 10.00 ND TOLUENE 10.00 ND CIS-1,3-DICHLOROPROPENE 10.00 ND 1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	•	10.00	ND
TOLUENE	2-CHLOROETHYLVINYLETHER	10.00	ND
TOLUENE	TRANS-1,3-DICHLOROPROPENE	10.00	ND
1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	•	10.00	ND
1,1,2-TRICHLOROETHANE 10.00 ND TETRACHLOROETHYLENE 10.00 ND CHLORODIBROMOMETHANE 10.00 ND CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	CIS-1,3-DICHLOROPROPENE	10.00	ND
TETRACHLOROETHYLENE		10.00	ND
CHLOROBENZENE 10.00 ND ETHYL BENZENE 10.00 ND BROMOFORM 10.00 ND 1,1,2,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	• •	10.00	ND
### ETHYL BENZENE	CHLORODIBROMOMETHANE	10.00	ND
BROMOFORM	CHLOROBENZENE	10.00	ND
1,1,2,2-TETRACHLOROETHANE 10.00 ND Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	ETHYL BENZENE	10.00	ND
Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	BROMOFORM	10.00	ND
Additional Compounds Wet DL (ppb) Wet Conc (ppb) ACETONE 50.00 ND CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	1,1,2,2-TETRACHLOROETHANE		
CARBON DISULFIDE 10.00 ND VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND			Wet Conc (ppb)
VINYL ACETATE 50.00 ND 2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	ACETONE	1	ND
2-BUTANONE (MEK) 50.00 ND 4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	CARBON DISULFIDE	10.00	ND
4-METHYL-2-PENTANONE (MIBK) 50.00 ND 2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	VINYL ACETATE	50.00	ND ND
2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	2-BUTANONE (MEK)	50.00	ND
2-HEXANONE 50.00 ND TOTAL XYLENE 10.00 ND	4-METHYL-2-PENTANONE (MIBK)	50.00	ND
			ND.
	TOTAL XYLENE		ND
OT LICENTE	STYRENE	10.00	ND

Note - DL means Sample Detection Limits (based on 100% recovery). NA means Not Analyzed, ND means Not Detected.

VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

File No.: 9205497

Sample: AK COPPER

Method: EPA 624

Init. Amt.: 5.0 ML

Matrix: WASTEWATER

Dilution: 5.0 % Solids: 0.0

No. Compound Name

CAS# Scan Q Est Conc

NONE FOUND